Exhibit E

SPARC

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October 22, 2021

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RE: Opposing the Merger Between Clarivate PLC and ProQuest LLC

Dear Director Vedova and Mr. Brown:

SPARC, the Scholarly Publishing and Academic Resources Coalition,[1] urges the Federal Trade Commission to block the proposed merger between Clarivate PLC and ProQuest LLC and to open a broader investigation into anticompetitive practices in the markets that form the foundation of the global research enterprise.[2]

The proposed merger between Clarivate and ProQuest is likely to produce adverse competitive effects described in the *Horizontal Merger Guidelines* and result in foreseeable harm to consumers related to product quality, price, choice, and privacy. The merger would significantly decrease competition across key markets, resulting in a research enterprise increasingly dominated by a very small number of firms with extraordinary market power, relative to both their competitors and customers. Blocking this merger is a necessary step in pulling the research enterprise back from the brink of a future in which it is controlled by platform monopolies.

Following decades of consolidation, the once-diverse set of markets supporting the research enterprise is now highly concentrated. What were previously related but separate competitive markets have been collapsed into single markets with waning competition and dominant firms that have concerning degrees of market power. This is the case in three markets relevant to the

[1] SPARC is an alliance of 200+ academic and research libraries working to make research and education open and equitable by design. More information can be found at https://sparcopen.org/who-we-are.
[2] Since 2019, SPARC has released four reports documenting the growing trend of commercial acquisition of infrastructure critical to academic institutions and the resulting market consolidation. Our opposition to this merger is grounded in this analysis, which can be found at https://infrastructure.sparcopen.org.

Clarivate-ProQuest merger: the library services platform (LSP) market, the research analytics market, and the academic journal market.

Characteristics of these markets make them particularly susceptible to anticompetitive practices and should raise the level of scrutiny with which this merger is reviewed. These include first-degree price discrimination, a lack transparency in pricing and contract terms, and prohibitively high switching costs. Together, these market attributes increase the likelihood of anticompetitive behavior and reduce the ability of consumers to respond to harms caused.

The structure of the combined Clarivate-ProQuest firm would also invite cross-leveraging of market advantages across distinct lines of business and further collapse competition across the research enterprise. ProQuest currently has an effective monopoly on LSPs used by academic libraries, with a 72% share of the market. More critically, it has an 83% share of libraries at large, research-intensive universities, a key relevant submarket in this merger.

ProQuest is also a new entrant and strong emerging competitor in the research analytics market. This strength is based on both its existing LSP customer base and the real-time data on the research process that it can extract from users at customer institutions, which provide valuable fuel to power analytics products. By building these products on a common platform with its LSP, ProQuest would be particularly well-positioned to bring competition to a consolidating research analytics market.

By acquiring ProQuest, Clarivate neutralizes it as an emerging maverick positioned to compete with its core analytics business. In ProQuest, Clarivate will acquire a platform monopoly in the LSP market that it can effectively leverage in the research analytics market to squeeze out remaining competitors and deter other firms from entry. Clarivate's merger announcement provides evidence of the combined firm's ability to extend its power in the research analytics market by extracting "billions of harmonized data points" from the "much wider range of information sources" that ProQuest provides.[3]

To better understand the concentrated market structure this merger would create, the FTC should review the role that Elsevier, Clarivate's chief competitor in the research analytics market, plays in consolidation across the research enterprise. Much as ProQuest subsidiary Ex Libris used integrated library systems as a core to replace an ecosystem of markets with a single LSP product, Elsevier is aggressively leveraging its dominant academic journals business to form the core of a single system to monetize the full research lifecycle—in short, a platform monopoly.

Clarivate may attempt to portray the merger as increasing competition by creating a stronger challenger to Elsevier; however, this is unlikely to materialize in a way that benefits consumers. These two emerging platform monopolies are likely to be leveraged in the research analytics

[3] *Clarivate to Acquire ProQuest*, NISO Member News, May 17, 2021, http://www.niso.org/niso-io/2021/05/clarivate-acquire-proquest [https://perma.cc/ET5W-FTHF].

market to drive out remaining weaker competitors, creating a duopoly between Clarivate and Elsevier.

The market characteristics that already create a strong bias toward large firms (first-degree price discrimination, a lack of transparency, and high switching costs) position Clarivate to capture any efficiencies created by the acquisition. In markets with little consumer surplus to begin with, the merged firm will have even fewer incentives to pass efficiencies on to customers. The resulting duopoly would also invite the two dominant firms to coordinate with greater ease and subtlety. It would create a perverse incentive structure, rewarding the firm that can extract as much data from as many sources as possible, and then monetize that data and its analysis as aggressively as possible.

Because of these foreseeable and likely outcomes, the FTC should block the proposed merger between Clarivate and ProQuest. In addition, the FTC should open a broader investigation into consolidation and anticompetitive practices in the markets that form the foundation of the global research enterprise. Given the market characteristics that favor firms over customers, the research enterprise is particularly susceptible to platform monopolies as digital infrastructure becomes central to the conduct of research. Addressing this proposed merger without a wider investigation would leave consumers vulnerable to exploitation.

Sincerely,

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OPPOSING THE MERGER BETWEEN CLARIVATE AND PROQUEST

October 22, 2021

1. BACKGROUND

There are three markets particularly relevant to the Clarivate-ProQuest merger: the library services platform (LSP) market, the research analytics market, and the academic journal market. These three markets work together to support critical research in the sciences and humanities, each serving an overlapping role:

1. **The LSP market** provides the digital infrastructure for libraries. The core functions of libraries, from purchasing and cataloging research materials to creating keyword search interfaces for researchers, are done through LSPs.
2. **The research analytics market** develops and sells academic metrics and assessment tools to universities, research institutions, grant funders, and private industry.
3. **The academic journal market** facilitates the publication and distribution of research results.

SPARC has been concerned for years about the rising involvement of a handful of large companies in the provision of data analytics services to the academic community. These concerns have led us to release four reports in the last three years that detail the issues posed by the uncontrolled deployment of data analytics in the academic community and the risks posed by the excessive concentration of supply.[4]

1.1 The Library Service Platform Market

Library service platforms (LSPs) control the core functions of modern libraries and are deeply integrated throughout library processes.

[4] *See infra* note 82 (listing the four SPARC reports).

LSPs are digital systems that allow libraries to manage their collection materials and automate many aspects of their operations.[5] The core library functions that LSPs can integrate into one product include:

- **Electronic resource management:** Overall systems management, tracking the selection, acquisition, licensing, access, maintenance, usage, evaluation, retention, and deselection of a library's electronic information resources
- **Content discovery:** Bibliographic search systems based on search engine technology (the search bar that appears on library websites)
- **Reading list integration:** Systems that integrate library platforms with course management systems, creating access to supplementary and suggested course reading materials
- **Indexing/Cataloging:** Building and maintaining an organized system reflecting the bibliographic content in library collections (including licensed databases, print materials, and other collections)
- **Interlibrary loan integration:** Facilitating and processing resource sharing between libraries
- **Materials acquisition:** Managing the budgeting, ordering, receiving, and processing of materials for the library collection, including procurement processes common among public research institutions[6]

LSPs are so central to the provision of library services that they are often referred to as "the backbone of the library"[7] and "the most essential of all technologies in a library."[8]

1.1.1 The Rise of Library Service Platforms as a Product Class

LSPs have consolidated library functions by bringing together several categories of library services and products that had previously been handled in separate products.[9] This "consolidation of functionality" has directly corresponded with a consolidation of diverse markets into a single platform market, decreasing product choices for libraries and research institutions and leaving libraries with far fewer options for customizing and running their collections and research services.

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[5] Marshall Breeding, *Library Services Platforms: A Maturing Genre of Products*, 51 LIB.TECH. REP. 5 (2015), https://journals.ala.org/ltr/issue/download/509/259.
[6] Marshall Breeding, *Beyond the ILS: A New Generation of Library Services Platforms*, *in* ROBOTS IN ACADEMIC LIBRARIES: ADVANCEMENTS IN LIBRARY AUTOMATION (Edward Iglesias ed., IGI Global 1st ed. 2013), https://librarytechnology.org/docs/17802.pdf.
[7] Grand Valley State University, *Library Services Platform Migration*, https://www.gvsu.edu/library/library-services-platform-migration-100.htm (last visited Oct. 13, 2021) [https://perma.cc/8WDC-UZYR].
[8] Colorado University Libraries, *Library Services Platform Migration*, https://www.colorado.edu/libraries/library-services-platform-migration (last visited Oct. 13, 2021) [https://perma.cc/EQ8R-F43H].
[9] Breeding, *supra* note 5 at 6-8.

Since the late 1970s, integrated library systems (ILS) have been libraries' "core automation system" for "the acquisition, management, and access to primarily print materials."[10] As their focus shifted from print-based collections to the online distribution of digital materials, libraries added new tools to complement the ILS as a core system, including link resolvers, knowledge bases of electronic resources, electronic resource management systems (including financial management components to manage expenditures), publishing and repository platforms, and digital preservation platforms.[11] LSPs combine ILS functionality with many of these once-separate tools into one product that replaces what was previously an ecosystem of tools, services, and providers.

One particularly important aspect of LSPs is that they replace library-hosted hosted ILS platforms and tools with a cloud-hosted, software-as-a-service (SaaS) model. The transition to cloud-hosted library services means that libraries' data and business logic are hosted by the vendor on their platform.[12] In automating and controlling so much of a library's work in a cloud-based environment, LSPs create vast amounts of data related to the process of academic research across all of their customers, from both individual users and institutions. This new platform structure has created ideal conditions for the market to consolidate by moving the control centers for library services from libraries themselves to vendors. Moving users from library-hosted servers to those hosted by the vendor has important implications for the Clarivate-ProQuest merger.

1.1.2 Consolidation of Firms in the Academic LSP Market

Since the term was coined in 2011, the LSP market has steadily consolidated. What was once a market of competing firms, in which no single firm controlled a majority share, has become a market in which one firm, ProQuest, dominates all other competitors. In 2020, ProQuest completed the acquisition of its largest remaining competitor, Innovative Interfaces, bringing its overall market share in academic libraries to 72%.[13]

The LSP market at research-intensive universities should be considered a distinct relevant market in the context of the proposed merger. Specifically, close scrutiny should be brought to the market comprising the institutions that have been assigned a Carnegie Classification of either "Doctoral Universities: Very High Research Activity" (commonly known as R1 institutions) or "Doctoral Universities: High Research Activity" (commonly known as R2 institutions).[14] R1 and R2 institutions are particularly critical to Clarivate-ProQuest—both as customers and as a data source. These institutions represent both the core customer base for Clarivate's research analytics products as well as the core user base for data extraction.

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[10] Breeding, *supra* note 5 at 7.
[11] *Id*. at 7-8.
[12] *Id*. at 11.
[13] Roger C. Schonfeld, *What Are the Larger Implications of Ex Libris Buying Innovative?*, Ithaka S+R (Dec. 5, 2019), https://sr.ithaka.org/blog/what-are-the-larger-implications-of-ex-libris-buying-innovative/.
[14] Carnegie Classifications, *News & Announcements: 2021 Classification Update*, The Carnegie Classification of Institutions of Higher Education, https://carnegieclassifications.iu.edu/.

Of these research-intensive institutions, ProQuest controls an 83% share of the LSP market at R1 institutions and a 76% share at R2 institutions.[15] A review of the Herfindahl-Hirschman Index (HHI), a commonly used measure of market consolidation,[16] underlines the extent to which ProQuest has driven its competitors out of this market.

According to the Herfindahl-Hirschman Index, ProQuest's market concentration in the R1 market segment is 6,934. In the R2 segment, ProQuest's HHI concentration is 5,904. Each segment's HHI measure is more than double the 2,500 point threshold for a market to be considered "highly concentrated." Considering that the FTC's *Horizontal Merger Guidelines* deem an HHI increase above 200 points sufficient to raise significant competitive concerns,[17] ProQuest has gained an extraordinary and concerning degree of market power within research-intensive institutions.

Herfindahl-Hirschman Index (HHI) for the LSP Market at R1 & R2 Institutions (2020)

Carnegie Classification	Number of Libraries	Total Library Expenditures	ProQuest			Sirsi Dynix	OCLC	HHI
			Combined ProQuest	Ex Libris	Innovative			
Doctoral Universities: Very High Research Activity (R1)	131	$4,022,932,741	83%	71%	12%	6%	3%	**6934**
Doctoral Universities: High Research Activity (R2)	132	$1,086,075,005	76%	49%	27%	8%	8%	**5904**

Data Source: https://librarytechnology.org/libraries/carnegie/SummaryReport.pl

More detailed market trend data is available for members of the Association of Research Libraries (ARL), a nonprofit organization of 125 research libraries in Canada and the US encompassing the vast majority of R1 institutions, further delineates ProQuest's market domination. While the ARL data includes Canadian institutions, it is still a valuable reference for U.S. antitrust enforcement given the additional granularity it can provide regarding market share over time.

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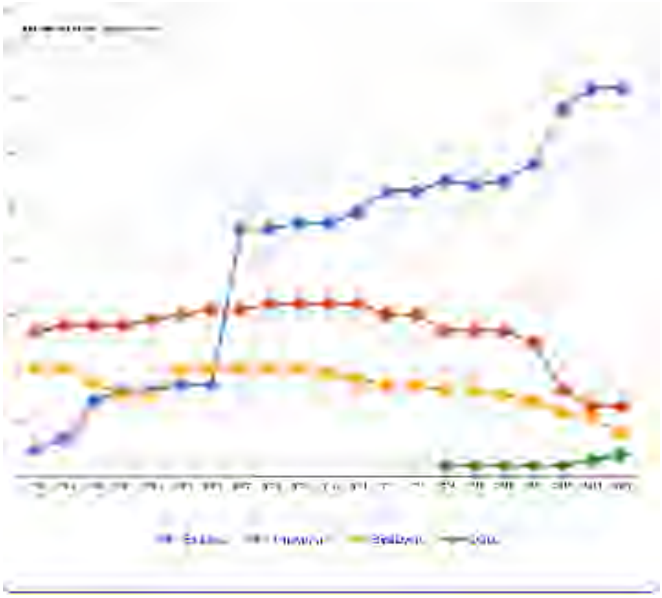
[15] *ILS Market Analysis by Carnegie Classification*, Lib. Tech. Guides, https://librarytechnology.org/libraries/carnegie/SummaryReport.pl (providing a full market share analysis segmented by Carnegie Classification). R1 and R2 institutions are listed on lines 15 and 16 of the analysis.

[16] U.S. Dep't of Just. & F.T.C., Horizontal Merger Guidelines § 5.3 (2010). ("The HHI is calculated by summing the squares of the individual firms' market shares, and thus gives proportionately greater weight to the larger market shares. When using the HHI, the Agencies consider both the post-merger level of the HHI and the increase in the HHI resulting from the merger").

[17] *Id*. ("Mergers resulting in highly concentrated markets that involve an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power").

Among ARL libraries, ProQuest's market dominance is even more complete, with an 85% share of the LSP products, and this share has increased steeply over the past decade.[18] The chart below shows this consolidation through the market share data of LSPs at ARL institutions for the past 20 years.

LSP Market Share at ARL Libraries



Source: https://librarytechnology.org/libraries/arl/ils-marketshare-trends.pl

Exhibit A at the end of this filing provides further detail on the erosion of competition in this relevant market.

ProQuest has primarily established its dominant position in the LSP market through acquisitions. In 2015, ProQuest purchased Ex Libris, the then-leading company making cloud services for libraries and academic institutions,[19] which had a 53.2% market share among ARL libraries at the time.[20] In 2019, ProQuest announced the acquisition of its next largest competitor in the LSP market, Innovative Interfaces, which had a 16.9% share of the ARL market before the merger.[21] These two acquisitions collapsed the competition in the academic LSP market. Following the announcement of the Innovative acquisition in 2019, Harvard Professor and Librarian John Overholt summed up ProQuest's takeover of library systems by saying "If we had

[18] *System Implementation Trends Among ARL Member Libraries*, LIB. TECH. GUIDES, https://librarytechnology.org/libraries/arl/ils-marketshare-trends.pl.
[19] ProQuest, *ProQuest Completes Acquisition of Ex Libris* (Dec. 15, 2015), https://about.proquest.com/en/news/2015/ProQuest-Completes-Acquisition-of-Ex-Libris/.
[20] *Systems and Vendors in Association of Research Libraries Members*, LIB. TECH. GUIDES, https://librarytechnology.org/libraries/ilsdata/ils-data-report.pl?category=arl.
[21] ProQuest, *Ex Libris Completes Acquisition of Innovative* (Jan. 16, 2020), https://about.proquest.com/en/news/2020/Ex-Libris-Completes-the-Acquisition-of-Innovative/.

functional antitrust enforcement it would obviously be illegal for ProQuest to buy ¾ of the ILS market for academic libraries and more than half for public [libraries]."[22]

HHI Analysis: LSPs Used By ARL Member Libraries in 2014-2020 (>1% Market Share)

Year	ProQuest	Ex Libris	Innovative	SirsiDynix	OCLC	EBSCO	Herfindahl-Hirschman Index (HHI)
2020[23]	84.8			8	4	1.6	**7273.6**
2019[24]	85.6			8	4		**7407.36**
2018	68.8		16.8	9.6	3.2		**5118.08**
2017	64.8		21.6	10.4	2.4		**4779.52**
2016	58.4		24	14.4	2.4		**4199.68**
2015	53.6		28	15.2	2.4		**3893.76**
2014		52.8	28.8	15.2	2.4		**3854.08**

Data Source: https://librarytechnology.org/libraries/ilsdata/ils-data-report.pl?category=arl

An analysis of the Herfindahl-Hirschman Index (HHI) for the LSP market among ARL libraries from 2014-2020 confirms this worrying consolidation. ProQuest's 2015 acquisition of Ex Libris occurred in the context of an already consolidated market, and its further acquisition of Innovative Interfaces in 2019 increased the HHI of this key submarket by 2,289 points, more than 10 times the 200 point increase sufficient to raise significant competitive concerns.[25]

This consolidation in the library service platform market is consistent with the underlying economics of online platforms more broadly. The platform businesses of social networks, search engines, and online marketplaces provide an instructive model for the future of scholarly communication that can be expected absent regulatory intervention. In these markets, the platform that is most successful in extracting data from its users and monetizing that data quickly builds an advantage that its competitors cannot overcome and from which it can extract ever more data and revenue from consumers. This is the future for research that the largest firms in the research community have already laid the foundations for and have made significant strides in bringing about. As our experience of social networks and search engines demonstrates, the future of research and education could end up being defined by firms with excessive market power.[26]

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[22] John Overholt, "If we had functional antitrust enforcement it would be obviously illegal for ProQuest to buy 3/4 of the ILS market for academic libraries and more than half for public," Twitter, Dec. 6, 2019, https://perma.cc/4DZ2-YZEB.

[23] While EBSCO has entered the market with its FOLIO product, the LSP market is likely to remain highly concentrated as ProQuest's momentum with customers in this market remains high.

[24] The leading data source for the LSP market (librarytechnology.org, maintained by Marshall Breeding) begins including Innovative's market share with ProQuest's in 2019 when the acquisition was announced, rather than in 2020 when it was finalized.

[25] *See* Horizontal Merger Guidelines § 5.3 *supra* note 17.

[26] Claudio Aspesi et al., *SPARC Roadmap for Action*, SPARC, Nov. 1, 2019, at 28, https://doi.org/10.31229/osf.io/a7nk8.

1.1.3 High LSP Switching Costs Create Product Lock In

Once a library has adopted a particular LSP, it is very difficult and costly to change to another platform. Switching LSPs is a multi-year process that requires expensive additional investments in staff time, transition management for users, and setup costs on a new platform.[27] It is not unreasonable to describe an LSP transition as a kind of open heart surgery for the library.

As one example, it took the City University of New York (CUNY) years to switch from its previous LSP, Aleph, to ProQuest's Alma platform—a process that started in 2019 (after a long procurement process) and still continues at the time of writing, with an entire staff working during those years on that project.[28] In private correspondence with SPARC, member libraries have estimated that LSP switching costs for a large research university can run into the millions of dollars. Because non-disclosure agreements often embedded in vendors' contracts prevent libraries from providing information about pricing and other contract terms, the FTC should ask the companies and libraries for a clearer picture of the switching costs involved in the LSP market.

A library cannot switch its LSP without significant budget, staff, time, institutional support, and IT infrastructure. The prohibitive switching costs for libraries tilts the market even further in favor of ProQuest, so much so that ProQuest's market power is a serious and ongoing source of concern within research libraries and should raise its own competition questions for FTC review.

1.2 The Research Analytics Market

1.2.1 Competition in the Research Analytics Market Is At Risk

Research metrics have existed for decades. For example, the Journal Impact Factor (JIF) was invented in the 1960s to measure a journal's impact by counting how many times articles are cited each year in subsequent research. In the half century since this early research metric was created, these metrics have become central to the evaluation and management of research, despite their significant flaws and negative side effects.[29]

Historically, research analytics have been based on usage (view and download counts) and citations (how many times an article has been cited; how many times the articles within a particular journal are cited). Usage and citation data tends to be publicly accessible.[30] Authors

[27] Marshall Breeding, *Library Services Platforms: A Maturing Genre of Products*, 51 Lib.Tech. Rep. 5, 12-13 (2015), https://journals.ala.org/ltr/issue/download/509/259.
[28] The City University of New York (CUNY), *Alma Implementation Timeline*, https://guides.cuny.edu/LSPImplementation/Timeline [https://perma.cc/QT56-5PCM] (last updated Aug. 27, 2020).
[29] *See* Vincent Larivière & Cassidy R. Sugimoto, *The Journal Impact Factor: A Brief History, Critique, and Discussion of Adverse Effects*, *in* Springer Handbook of Science and Technology Indicators (Wolfgang Glanzel et al. eds, 2019), https://arxiv.org/ftp/arxiv/papers/1801/1801.08992.pdf; *San Francisco Declaration on Research Assessment*, DORA, https://sfdora.org/read/; Mario Biagioli & Alexandra Lippman, Gaming the Metrics: Misconduct and Manipulation in Academic Research (MIT Press 2020).
[30] While citation data is publicly accessible, it requires significant effort to parse. Usage data is generally unaudited, which can create challenges in comparing usage across platforms.

have an interest in both knowing their usage statistics and having those figures made publicly available so others can see their impact. Following the efforts of the Initiative for Open Citations (I4OC),[31] citation data is now largely publicly available as well.

The research analytics market is in the process of transforming and segmenting. Access to more personal and institutional data has created new data analytics opportunities that several companies have been well-positioned to capitalize on. Academic research companies and platforms are following other digital markets towards an emerging profit center: data analytics. Forbes recently observed that the data analytics industry is "exploding" because of advances in data collection and data processing, and traditional goods and services producers are finding ways to incorporate data collection and analytics into their products.[32]

Players in the academic research markets are seeking out data analytics opportunities and seeking to take over the research analytics market. For example, Elsevier's parent company, RELX, now focuses less on traditional publishing and more on data analytics.[33] RELX has been building out its data analytics services and was recategorized from "media group" to "business services company" by MSCI.[34] Clarivate is similarly growing its analytics business, creating products for researchers as well as the entities that fund research, providing guidance on what research will be the most lucrative.[35]

Clarivate and Elsevier are the two largest firms at the top of the research analytics market. Both own widely used platforms (for example, Web of Science and Scopus) from which they can extract user data from researchers, libraries, academic institutions, members of the public, and anyone else who conducts research, to generate insights into the research process in real time; sell this research intelligence to an established customer base in libraries, academic institutions, and research funders; and open up an emerging customer base in firms such as pharmaceutical companies and other industries that could represent a new multi-billion dollar market.[36]

In the middle of the market are two firms, ProQuest and Digital Science. Both participate in the market, but significantly trail the two market leaders. While ProQuest and Digital Science do have access to platforms (and the valuable non-public data that comes with them), their current competitive strength is limited—one because it is a new entrant and the other due to structural weaknesses.

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[31] Initiative for Open Citations, https://i4oc.org (last visited Oct. 13, 2021).
[32] Bernhard Schroeder, *The Data Analytics Profession And Employment Is Exploding—Three Trends That Matter*, Forbes, Jun. 11, 2021, https://www.forbes.com/sites/bernhardschroeder/2021/06/11/the-data-analytics-profession-and-employment-is-exploding-three-trends-that-matter/?sh=1475f1a83f81.
[33] Ron Van Loon, *RELX Group, A Transformation Story*, RELX, https://www.relx.com/our-business/our-stories/transformation-to-analytics (last visited Oct. 20, 2021).
[34] Formerly Morgan Stanley Capital International.
[35] Clarivate, *Funders*, https://clarivate.com/webofsciencegroup/solutions/funder/ (last visited Oct. 20, 2021).
[36] The future this emerging duopoly is building is described further in sections 1.2.2 and 1.2.3 below.

ProQuest, the new player, entered this market over the past two years[37] with the development of its research analytics product, Esploro, and has announced its ultimate goal to become a "new end-to-end research services platform."[38] While Esploro was only launched across all five of its development partner institutions in 2020, it represents a significant threat to the market power of the two dominant firms. By "leveraging the cloud-based Ex Libris Alma platform" as the core of Esploro, ProQuest can make a compelling pitch to the majority of R1 institutions already using Alma as their library service platform, leveraging this market share to compete with Clarivate and Elsevier.

Perhaps more importantly, ProQuest owns a platform in Alma from which it can also extract user data to generate insights into the research process in real time. For this reason, ProQuest should be seen as an emerging maverick in the research analytics market and the most viable competitor to Clarivate and Elsevier, as described in further detail below in 1.2.4.

The second firm in the middle of this market is Digital Science. While Digital Science does have access to streams of user data through its products, it appears to have lower adoption[39] and therefore less ability to generate rich user data. Furthermore, rather than pursuing a cohesive, integrated strategy and research analytics product, Digital Science is more of a "collection of entrepreneurs pursuing their vision [which] means that integrating the companies into a single, cohesive offering is very difficult."[40] It is estimated that in the past Digital Science operated at a significant loss,[41] reportedly of a magnitude significant enough that led it to be excluded from the merger of Springer and Nature Publishing Group as "its losses would saddle the performance of the combined entity."[42] Consequently, Digital Science is a weaker competitor relative to the market leaders. Relative to ProQuest, Digital Science presents a less significant constraint to market power as a maverick firm.

At the bottom of the market are a set of firms that participate in the research analytics market but do not have access to widely used platforms and are focused on the traditional academic customer base, including Academic Analytics, Data180 (Interfolio), and Digital Measures (Watermark).[43] These firms assist individual institutions with research assessment and tracking and showcasing faculty impact. While they sell digital tools and services, they do not have platform characteristics. Therefore, these firms do not pose a significant threat to or constrain the market power of the leading firms.

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[37] Ex Libris, *Five Partners Join Ex Libris in Developing Esploro Research Services Platform*, Feb. 8, 2018, https://exlibrisgroup.com/press-release/new-ex-libris-research-services-platform-esploro-five-development-partners/.
[38] *Id*.
[39] Our understanding of Digital Science's market share is based on conversations with SPARC member libraries.
[40] Claudio Aspesi et al., *SPARC Landscape Analysis*, SPARC, Mar. 29, 2019, at 29, https://doi.org/10.31229/osf.io/58yhb.
[41] *Id*. at 24.
[42] *Id*. at. 29.
[43] Maryann E. Martone et al., Concerns Regarding the Use of Research Information Management Systems at the University of California (2019), https://senate.universityofcalifornia.edu/_files/reports/rm-jn-mb-rims.pdf.

1.2.2 Integrated Research Analytics Platforms Are the Future of the Market

In contrast to the pre-internet academic metrics market, today's research analytics market is driven by big data. The data-fueled research analytics market is developing without significant scrutiny from academia, combining public data on scholarship, such as research metrics, with private data about researchers and their institutions to generate predictions about what research will be the most valuable and lucrative. This market serves universities, academic institutions, and research funders as well as, increasingly, private industry and investors.

Claudio Aspesi, a respected market analyst in the higher education space, has described how the research analytics firms built around platforms are quickly becoming central to the business of running academic institutions:[44]

> Through the seamless provision of these services, [research analytics companies] can invisibly and strategically influence, and perhaps exert control, over key university decisions – ranging from student assessment to research integrity to financial planning. Data about students, faculty, research outputs, institutional productivity, and more has potentially enormous competitive value. It represents a potential multi-billion-dollar market (perhaps multi-trillion, when the value of intellectual property is factored in), but its capture and use could significantly reduce institutions' and scholars' rights to their data and related intellectual property. A set of companies is moving aggressively to capitalize on this data, often by exploiting the decentralized nature of academic institutions.[45]

Over the past decade, research analytics have become both more sophisticated and more central to research institutions. The leading research analytics firms use metadata to analyze connections between citations, researchers, institutions, and grant funders to "discover new information" rather than simply analyzing publicly available citation and usage data.[46] The new research analytics products do more than point out which articles are most cited. They "reveal meaningful linkages – between past and current research, between collaborators, between funding and research impact," and these firms sell those insights to universities, research funders, and private industry.[47]

Companies in this new research analytics market aggressively pursue additional sources of data to fuel their analytics software. Just this year, Clarivate launched a host of new academic data analytics products, including: enriched citation references that show when citations were referenced by time, proximity and location more data on links between patent data and publications, and a service that links publications to their funding details, including the award date of the grant, the award amount, the Principal Investigators, and other information.[48]

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[44] *See SPARC Landscape Analysis supra* note 40.
[45] *Id*. at 5.
[46] *Web of Science Platform*, CLARIVATE, https://clarivate.com/webofsciencegroup/solutions/webofscience-platform/ [https://perma.cc/4G73-JADM] (last visited Oct. 21, 2021).
[47] Id.
[48] *Clarivate Launches New Web of Science to Accelerate the Pace of Research and Discovery*, Clarivate,

With ProQuest, Clarivate will have even more data to fuel its products. It plans to leverage ProQuest's "data cloud" to increase and link data points in Clarivate's "Research Intelligence Cloud, " to build "predictive and prescriptive analytics opportunities,"[49] which has the potential to become big data brokering for academia.

1.2.3 Competition in the Research Analytics Market is Under Threat

Data analytics markets are naturally highly concentrated because users want access to the best and broadest breadth of data and analytics, regardless of cost.[50] As a result, other data analytics markets, including real-time financial markets data, TV ratings, supermarket scanner data, and general legal information services tend toward being either monopolies or very concentrated oligopolies. It should be expected that research analytics will be a similar, winner-take-all platform market absent regulatory action.

To compete as this market evolves and grows, a firm must collect as much data as possible throughout the research lifecycle, on both people and on the process of research. The more proprietary and predictive the data a firm has access to, the stronger its market position will be. Firms that wish to compete in this space are, therefore, particularly focused on predictive data that go beyond widely accessible sources about the present state of research (e.g. usage metrics and citation data) and instead flow from proprietary sources that are only available to platform owners.

Examples of proprietary data with predictive power that are available to platform owners and could be used to create monetizable market intelligence include:

- Advance indications of emerging topics of interest through search
- Advance identification of rising "stars" in their respective field of research
- Advance indications of interest through funding of research
- Advance indications of impact

Long-term viability in this emerging market will require a firm to establish as many beachheads for proprietary data extraction as possible. A firm will need to have a widely used platform through which it can extract proprietary data with predictive power. This market characteristic creates conditions that require leveraging platforms to collect proprietary data on the research process from a related market in order for a firm to continue to be competitive in the research analytics market, creating high barriers to entry described further in 2.1.2.

In general, the more dominant the market share of the platform that proprietary data is extracted from, the larger the competitive advantage that will accrue to its owner. Platform markets where

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https://clarivate.com/news/clarivate-launches-new-web-of-science-to-accelerate-the-pace-of-research-and-discovery/ [https://perma.cc/2XVK-LFBQ] (last visited Oct 3, 2021).

[49] *See Clarivate to Acquire ProQuest supra* note 3.

[50] Claudio Aspesi et al., *2020 Update: SPARC Landscape Analysis & Roadmap for Action*, SPARC, Jun. 22, 2020, https://infrastructure.sparcopen.org/2020-update.

competition is limited—such as the academic LSP market—mean would-be research analytics competitors without their own platform have little viable alternative for sources of the proprietary data needed to compete. And once an institution adopts a research analytics platform, it is difficult to justify acquiring the products of multiple vendors, both because of cost duplication and because tools providing different recommendations tend to generate more administrative complexity.[51]

In addition to the impact of platform monopoly on prices and customer choice, the risks posed by a monopoly in research analytics extend to the entire academic community. If one or two companies are allowed to exclusively assess research or even just to exclusively provide the building blocks that are used in that assessment, any biases or errors in the algorithms or in the data can and will be amplified—potentially negatively affecting the academic career and livelihood of tens and hundreds of thousands individuals over time.

In addition, unpopular, heterodox, or revolutionary scientific ideas that are put forward by researchers can only thrive if there is a research system willing to pursue different ideas and approaches. Confining these decisions (or the building blocks of these decisions) to only a limited number of actors can pose serious harm to equity, academic freedom, and scientific progress. It raises the likelihood of reinforcing existing inequities and replicating them within new systems.

1.2.4 ProQuest is an Emerging Maverick in the Research Analytics Market

To our knowledge, detailed market data is not available for the research analytics market. However, the preceding analysis in 1.2.1 illuminates why Clarivate's acquisition of ProQuest will have a significant negative impact within the research analytics market.

By leveraging the cloud-based Ex Libris Alma platform as the core of Esploro, ProQuest can make a compelling pitch to the majority of R1 institutions already using Alma as their library service platform, leveraging its LSP market share to compete with Clarivate and Elsevier. Perhaps more importantly, ProQuest owns a platform from which it can also extract user data to generate insights into the research process in real time. With this capability, ProQuest has exclusive access to rich sources of research data. As the dominant LSP in research institutions, its platform gathers a wealth of data that competitors cannot access.

University of Wisconsin librarian Dorothea Salo illustrated the depth of ProQuest's data stores and potential for data collection when she obtained her library's own ProQuest Alma search records. Salo's research indicates the significant personal data available to ProQuest and the potential for that personal data to be connected with research activities.[52] This data can be organized by institution or by individual researcher. These rich pools of research data are

[51] *Id*.
[52] Dorothea Salo, *OSINTing a library's privacy practices*, Jun. 5, 2021, DSALO BLOG https://dsalo.info/osinting-a-librarys-privacy-practices/ [https://perma.cc/8FK9-ADFS] (linking the underlying data here: OSFHome, https://osf.io/2axkn/?view_only=e5bf9737a44643bf8cf3325fcc9c5168).

valuable source material for emerging academic predictions products that are marketed to researcher-supporting institutions, grant funders, and private industry.

For this reason, ProQuest should be seen as an emerging maverick in the research analytics market that is well positioned to constrain the market power of the leading two firms.[53] Additionally, ProQuest's emergence as a strong competitor in this market and its progress in leveraging its LSP monopoly to gain an advantage for its analytics product offering would be sufficient to raise competition concerns even before the merger was announced.

1.2.5 The Merger Would Cement a Duopoly in the Research Analytics Market

ProQuest would provide Clarivate the widely adopted platform and the dominant market share that it needs to seal off potential competitors from a key proprietary data source. Furthermore, Clarivate could easily bundle ProQuest and Clarivate data analytics products into one contract, further restricting the competitive opportunity for new entrants wishing to compete in the provision of data analytics services.

The precedent already exists for this kind of bundling. In May 2020, Elsevier entered into a contract in the Netherlands that bundled together publishing and data analytics.[54] Sarah de Rijcke, Scientific Director and Professor of Science, Technology, and Innovation Studies at CWTS at Leyden University, wrote: "This agreement will obviously give Elsevier a competitive edge, because they have already secured a number of pilots. And this agreement also implies that universities will have less money left for issuing contracts to other parties… I am not persuaded by the contract, and still find it disconcerting that this deal may effectively transfer crucial means to influence Dutch science policy to a monopolistic private enterprise."[55]

This example demonstrates product tying is already a strategy being actively pursued in this market. It underlines both the likelihood of Clarivate pursuing a similar strategy and the weakened position of would-be competitors that do not have a platform offering with which to bundle analytics products.

1.3 The Academic Journal Market

It is important to note that Clarivate and ProQuest are participants in another market directly relevant to the merger: the academic journal publishing market.

Journals play two critical roles in the global research enterprise: They serve as the main channel for researchers to communicate their findings; and they are also the main way that researchers receive recognition/credit for their work. It has become imperative for scientists to

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[53] U.S. Dep't of Just. & F.T.C., Horizontal Merger Guidelines § 2.1.5 (2010) (defining "maverick firm" as "a firm that plays a disruptive role in the market to the benefit of customers").
[54] Florin Zubașcu, *Elsevier signs open access agreement in the Netherlands*, Science|Business, May 19, 2020, https://sciencebusiness.net/news/elsevier-signs-open-access-agreement-netherlands.
[55] Sarah de Rijcke, *Elsevier and the Dutch Open Science Goals*, Leiden Madtrics, May 20, 2020, https://www.leidenmadtrics.nl/articles/s-de-rijcke-cwts-leidenuniv-nl.

publish the results of their research in journals in order to advance their careers (the "publish or perish" phenomenon), and the size of the academic journal market reflects this imperative. There are more than 42,000 peer-reviewed journals, collectively publishing over 3 million articles a year.[56] The annual revenues generated from the global journal market was valued at approximately $9.5 billion in 2020.[57]

Despite its modest direct role in the journal market, the Clarivate-ProQuest merger has the potential to further collapse competition in this important market. Clarivate's primary relevant product, ScholarOne, provides the journal management system for approximately one-third of published research[58] while ProQuest markets an extensive array of comprehensive databases that curate and bundle content into a single point of access.[59] However, both are dwarfed in this market by the largest academic publishers, particularly by its largest firm, Elsevier. Elsevier's market position is relevant to the Clarivate-ProQuest merger because it highlights the emerging platform monopolies at the heart of the research process and brings into focus the concerning market structure that would result.

Much as ProQuest subsidiary Ex Libris used integrated library systems as a core to replace an ecosystem of markets with a single LSP product, Elsevier is aggressively leveraging its dominant academic journals business to form the core of a single system to monetize the full research lifecycle—in short, a platform monopoly. Elsevier has already largely built an integrated end-to-end platform for research with its publishing business at the core.[60]

This integrated platform extends to the beginning of the research process with tools that assist with the formation of research questions, funding and methods, data collection, data analysis, publication of results, and research collaboration tools that can underpin the research process. The Elsevier ecosystem also extends beyond the core publishing process (consisting of publication submission, peer review, revision, publisher proofing, and distribution and dissemination) to the evaluation process, including research evaluation, networking, and analysis related to academic employment.

This platform approach is described in "*Vertical Integration in Academic Publishing*" by George Chen, Alejandro Posada and Leslie Chan, which includes the diagram below. According to this analysis, "Elsevier has acquired and launched products that extend its influence and its ownership of the infrastructure to all stages of the academic knowledge production process.

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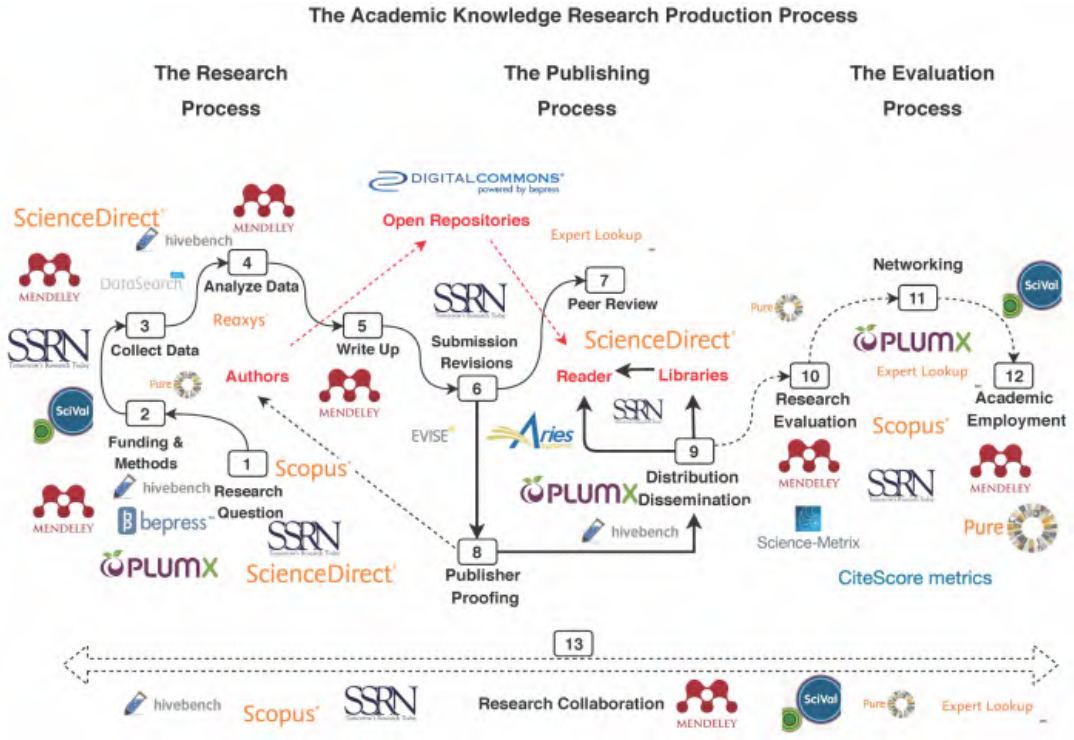
[56] STM, *The STM Report: An Overview of Scientific and Scholarly Publishing*, *2018*, https://www.stm-assoc.org/2018_10_04_STM_Report_2018.pdf.
[57] STM, *STM Global Brief: 2021: Economics and Market Size, 2021,* https://www.stm-assoc.org/2021_10_19_STM_Global_Brief_2021_Economics_and_Market_Size.pdf.
[58] *Scientific and Academic Research Solutions*, CLARIVATE, https://clarivate.com/products/scientific-and-academic-research/ [https://perma.cc/D8D4-4A9C] (last visited Oct. 13, 2021).
[59] *Databases*, PROQUEST, https://about.proquest.com/en/content-solutions/databases/ [https://perma.cc/56UN-WNAN] (last visited Oct. 13, 2021).
[60] George Chen et al., *Vertical Integration in Academic Publishing: Implications for Knowledge Inequality*, *in* CONNECTING THE KNOWLEDGE COMMONS—FROM PROJECTS TO SUSTAINABLE INFRASTRUCTURE (Leslie Chan ed., OpenEdition Press 2019).

This raises an imminent concern of a potential conflict of interest. This is especially true when the largest supplier of academic journals is also in charge of evaluating and validating research quality and impact (e.g., Pure, Plum Analytics, Sci Val), identifying academic experts for potential employers (e.g., Expert Lookup), managing the research networking platforms through which to collaborate (e.g., SSRN, Hivebench, Mendeley), managing the tools through which to find funding (e.g., Plum X, Mendeley, Sci Val), and controlling the platforms through which to analyze and store researchers' data (e.g., Hivebench, Mendeley)."[61]



Source: Vertical Integration in Academic Publishing[62]

This integrated platform not only allows researchers to use Elsevier products throughout most of the research process—their integration actively encourages users to stay within the ecosystem, despite the conflicts of interest that arise.

Chen, Posada, and Chan go on to describe this concern:

> The conflict of interest arises because the influence that Elsevier has over institutional and individual decision making, based on their recommendations and metrics, can privilege their own content as well as researchers that participate within their integrated systems. As such, the conflict of interest has direct implications for the power and control that publishers have over the content and methodological approach of the research being produced. Having publishers involved as key stakeholders of research

[61] *Id.*
[62] *Id.*

> development and evaluation, as well as researchers' career development, further raises a number of important questions in relation to the ethics and the negative potential implications of having such a concentrated and centralized force behind the production of academic knowledge.
>
> Specifically, we argue that the vertical integration has the potential to increase dependence by users (universities, lecturers and researchers) on big publishers such as Elsevier and Wiley, as well as transforming the institutional and individual decision-making process, ceding over increasing control to the private for-profit industry. In turn, the increased dependence by individual researchers and institutions as a result of the integration translates into an exacerbation of power and control by the big publishers. Through this logic the rebranding of Elsevier as a data analytics company is also a move towards a future of disproportionate ownership of data by the industry's giants. A disproportionate ownership of data facilitated by a vertical integration and coupled with an existing disproportionate ownership of content can thus have dire implications for reproducing inequalities across institutions around the world.[63]

Elsevier's reach spans the research data and journal markets in the same way other tech companies establish dominant positions in their respective markets-—by controlling most elements of their markets' value chains, extracting information from each and limiting the capacity of other companies to compete. Just as Amazon enclosed product manufacturing, branding, sales, logistics, and delivery into its business model to become an overpowering sales platform monopoly, Elsevier can now bundle publishing, research services, and data analytics in an effort to dominate the research market.

The emergence of Clarivate-ProQuest and Elsevier as platform monopolies will harm rather than benefit consumers. The result of Clarivate-ProQuest and Elsevier co-existing in the research analytics market will be multiple platform monopolies—not meaningful competition or benefit for consumers. The unique nature of data markets allows for platform monopolies to co-exist alongside one another. Given the strong position that each will operate from in the LSP and content markets respectively, Clarivate-ProQuest and Elsevier will each be incentivized to extract as much data from as many sources as possible, and then monetize that data and its analysis as aggressively as possible.

1.4 Common Market Characteristics That Increase Firms' Power Relative to Customers

1.4.1 First-Degree Price Discrimination

In each of the three markets discussed, the largest commercial players routinely engage in first-degree price discrimination, attempting to maximize the amount of revenue generated by each customer according to their ability to pay. Contracts for library service platforms, research

[63] *Id*.

analytics tools, and academic journal packages are negotiated directly with institutions and often involve a complex structure of fees and adjustments. To the extent that there may be a starting point referred to as a "list price" or tiered pricing based on institution type or enrollment, products are generally priced artificially high with customers typically getting a "discount." This discount is in name only, as it serves as a means to capture as much as possible of what would have been the consumer surplus without losing the sale entirely.[64]

1.4.2 Opaque Terms & Pricing

Pricing in each of these three markets, as well as the terms under which products and services are offered, tends to be extremely opaque. It is common for contracts to include non-disclosure agreements (NDAs), and even when NDAs are not present (or are rendered unenforceable by law), vendors often pressure libraries to keep terms private and create a presumption that contract details should not be shared.[65]

This opacity significantly strengthens the position of firms in pursuing the first-degree price discrimination described above. Customers are routinely unaware of what similar institutions are paying, giving firms more room to price discriminate without alienating a customer to the point of walking away.[66]

1.4.3 High Switching Costs

While library service platforms in particular have extraordinarily high switching costs, described in section 1.1.3, the other two related markets in this merger share this characteristic.

For an institution's research analytics tools, switching costs can be high enough to create lock in. The metrics and algorithms produced by analytics tools are the "know-how" of each supplier, and are both proprietary and difficult/impossible to replicate. Some suppliers restrict even public disclosure of metrics, which are meant only for internal customer use. Once an institution has integrated a particular firm's suite of analytics products and services into its internal processes (for example, for faculty productivity assessment), it is costly to revisit this decision and adapt to a new set of proprietary tools.

In the academic journal market, individual journal titles are not substitutes for one another. Journals strongly prioritize novel findings and reject articles they believe duplicate previously published results. This means that one article cannot be substituted for another, nor can journals be substituted for one another.

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[64] SPARC is informed about first-degree price discrimination through conversations with our membership and programmatic activities that include a journal negotiation community of practice where libraries share experiences of negotiations with vendors in this market.
[65] SPARC is especially familiar with this dynamic through our work convening a journal negotiation community of practice and creating a contracts library. *See* SPARC, *Big Deal Knowledge Base*, https://sparcopen.org/our-work/big-deal-knowledge-base/ (last visited Oct. 20, 2021). Despite a continuing concerted effort, only a dozen institutions have provided contracts to be made publicly accessible.
[66] Similarly, SPARC is directly familiar with this dynamic through our work convening the journal negotiation community of practice.

Accordingly, switching costs for academic journals should typically be more accurately thought of as cancellation costs, and these can be significant. While the effort involved in journal cancellations varies between libraries, many spend significant staff time consulting faculty before, during, and after the cancellation process. For large journal packages, the consultation and negotiations required for a cancellation are often multi-year processes for libraries. The amount of additional work involved is enough that these are typically referred to as "cancellation projects" within the library community.[67]

2. THE MERGER WOULD REDUCE COMPETITION AND HARM CONSUMERS

The platform businesses of social networks, search engines, and online marketplaces provide an instructive model for the future of the global research enterprise that can be expected absent regulatory intervention.

In the markets enumerated in Section 1, the platform that is most successful in extracting data from its users and monetizing that data quickly builds an advantage that its competitors cannot overcome and from which it can extract ever more data and revenue from consumers. This is the future that the largest firms in the research community have laid the foundations for, and have already made significant strides in advancing. As experience with social networks and search engines demonstrates, the future of research and education could very well end up being defined by a small number of firms with excessive market power, relative to both their competitors and customers.[68]

The Clarivate-ProQuest merger would significantly decrease competition across key markets and usher in this concerning future of limited competition. The merger is likely to produce adverse competitive effects described in the *Horizontal Merger Guidelines* that would result in foreseeable harm to consumers related to product quality, price, choice, and privacy.

2.1 The Merger Would Significantly Reduce Competition & Increase the Risk of Anticompetitive Behavior

2.1.1 The Merger Eliminates an Emerging Maverick in the Research Analytics Market

In ProQuest, Clarviate will eliminate an emerging maverick firm that would be best positioned to ensure future competition in the research analytics market. As described in section 1.2.4, the rich data streams ProQuest has access to through its LSP products make it a stronger competitor to Clarivate and Elsevier than the other firms in the market. As described below in

[67] SPARC has direct experience with and knowledge of these cancellation costs through our journal negotiation community of practice.
[68] *See SPARC Roadmap for Action supra* note 26.

2.1.2, the strengths that Clarivate will gain by acquiring this emerging maverick firm will make it more difficult for existing competitors to remain competitive in the longer term and for new firms to enter the market.

2.1.2 The Merger Will Increase Barriers to Entry

As described in 1.2.3, the approval of this merger would irrevocably change the research analytics market and raise the barriers to entry. Following the merger, the two already-dominant players in that market would be owners of related platforms from which each could extract proprietary data of high value in producing predictive analytics. Clarivate would control the platform through which users at research-intensive institutions access academic content, and Elsevier, as the dominant academic publisher building an end-to-end platform for research, would continue to control the most important single ecosystem of research content and its production.

Without a similar proprietary data source of comparable value, which neither currently exists nor would be easy to create, remaining competitors would be at a prohibitive disadvantage, and potential new entrants would be deterred from competing in this market.

2.1.3 The Merger Would Increase Conflicts of Interest

The merger would give rise to a number of anticompetitive conflicts of interest. Through the role they play in the management of library budgets and acquisitions, LPSs contain sensitive business information from competitors. With the acquisition of ProQuest, Clarivate could potentially access competitively sensitive information, including access to contract information, pricing information, and other terms of service agreements between content firms and their library customers.

The acquisition of ProQuest could also enable Clarivate to “gatekeep” competitors in the content business of academic publishing. Given the role of LSPs in indexing, search/discovery, and the provision of access to content, ProQuest could privilege its own content relative to others or make it more difficult to find or access competitors’ content. This could be accomplished subtly and in ways that could be difficult to notice or prove.

Preferential treatment of a firm’s own content and de-prioritization of others’ would not be new. Amazon is known to put its own brands first in search results, even if other brands are better-rated.[69] This also currently happens in academic research platforms. For example, RELX’s Lexis legal research platform appears to prioritize its own editorial content and secondary sources in search results.[70]

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[69] Adrianne Jeffries & Leon Yin, *Amazon Puts its Own “Brands” First, Even Above Better-Rated Products*, The Markup, Oct. 14, 2021, https://themarkup.org/amazons-advantage/2021/10/14/amazon-puts-its-own-brands-first-above-better-rated-products.

[70] This conclusion is confirmed by searches run on October 21, 2021. Searches including general topics like “insurance law” and “criminal law” prioritized LexisNexis treatises and looseleaf products (results on file with authors).

When Elsevier content is routed through Clarivate-ProQuest platforms to reach end users, ProQuest could deprioritize Elsevier (or other publishers') content, lifting its own materials to the top of the list, where consumers are most likely to click. Research shows that people routinely click on the first search results offered,[71] so even a subtle shift in search result rankings could have an outsized impact on usage.

The library analytics tools within ProQuest's LSP, Alma Analytics, could also be leveraged to subtly undermine competitors by making their content offerings appear less valuable. While content is not the primary market for Clarivate-ProQuest, it is for its main competitor in Elsevier.

2.2 The Merger Would Harm Consumers

2.2.1 The Merger Would Compromise User Privacy

If Clarivate were to acquire ProQuest, Clarivate would be well-placed to leverage ProQuest's monopoly in the academic LSP market to bundle library products with data analytics tools that extract data from libraries and users.

Clarivate describes this directly in the acquisition announcement: "The addition of ProQuest moves the academic analytical capabilities of Clarivate beyond its traditional realm of journal publication data and citations into a much wider range of information sources. There will be long-term predictive and prescriptive analytics opportunities from the enhanced combination of ProQuest's data cloud with the billions of harmonized data points in the Clarivate Research Intelligence Cloud."[72]

These "billions of harmonized data points" are another way of describing the extraction of data from every student, faculty, and researcher using a ProQuest or Clarivate product. Mukhtar Ahmed, head of Clarivate Science, underlined this point in a call with investors by saying that Clarivate-ProQuest will "touch every student in K through doctoral degrees everywhere."[73]

With a strong incentive to tie invasive data collection tools with library platform services, Clarivate-ProQuest risks transforming academic libraries into sources from which to mine valuable data—including personal data—from anyone who uses research services.

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[71] Matt Southern, *Over 25% of People Click the First Google Search Result*, Search Engine J., Jul. 14, 2020, https://www.searchenginejournal.com/google-first-page-clicks/374516/.
[72] *See Clarivate to Acquire ProQuest supra* note 3.
[73] Roger C. Schonfeld, "Q B Reilly Securities: Give us more of a sense of the customer overlap. Cross selling opportunity? A: We can touch every student in K through doctoral degrees everywhere," Twitter, May 17, 2021, https://twitter.com/rschon/status/1394266400143855619 [https://perma.cc/94H2-6BHX] (live-Tweeting the Clarivate acquisition announcement call).

2.2.2 The Merger Would Degrade Product Quality

In a June 2021 report, the German Research Foundation starkly outlined the potential threat that research analytics companies pose to researchers and the integrity of the research process itself:[74]

"There is a risk that this shift in the commercial business model towards data analytics will result in the knowledge society becoming privatised, and that ultimately it will no longer be the public sector but increasingly private companies that are privy to knowledge about research content and trends, its institutions and stakeholders. Research as a public asset is subjected to the logic of infrastructure privatisation and the consequences this entails."[75] The report goes on to conclude, "Research tracking of this kind can fundamentally contradict academic freedom and informational self-determination. It can endanger scientists and hinder the freedom of competition in the field of information provision."[76]

For libraries and the academic communities that they serve, the addition of tools that extract and monetize user data to an otherwise identical platform results in an inferior product for academic consumers.

Academic institutions have long accepted the essential nature of academic freedom, a concept enshrined in the Association of American University Professors' 1940 Statement of Principles on Academic Freedom and Tenure: "Academic freedom is essential to these purposes and applies to both teaching and research. Freedom in research is fundamental to the advancement of truth."[77] The very real risk that the merger could negatively impact academic freedom should be weighed by the FTC as a significant harm to academic consumers.

Protecting users' privacy is a cornerstone of library operations, and a legal responsibility of institutions, particularly when it comes to student data. On the federal level, the Family Educational Rights and Privacy Act (FERPA) recognizes the important privacy needs of the learners that use libraries and research services.[78] The law prevents libraries and schools from sharing students' education records without permission. Similarly, the American Library Association's Library Bill of Rights recognizes the central importance of privacy to libraries: "All people, regardless of origin, age, background, or views, possess a right to privacy and confidentiality in their library use. Libraries should advocate for, educate about, and protect people's privacy, safeguarding all library use data, including personally identifiable

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[74] German Research Foundation, *Data Tracking in Research: Aggregation and Use or Sale of Usage Data by Academic Publishers*, Jun. 18, 2021, https://www.dfg.de/download/pdf/foerderung/programme/lis/datentracking_papier_en.pdf.
[75] *Id*. at 7.
[76] *Id*. at 12.
[77] Amer. Ass'n of Univ. Professors, *1940 Statement of Principles on Academic Freedom and Tenure*, https://www.aaup.org/report/1940-statement-principles-academic-freedom-and-tenure.
[78] 20 U.S.C. § 1232g.

information."[79] Furthermore, a host of state library privacy laws protect the confidentiality of library records in every state.[80]

Given both libraries' and academic institutions' well-established professional commitment to privacy, the bundling of tracking tools with library products constitutes a degradation in product quality for consumers.

2.2.3 The Merger Would Reduce Long-Term Consumer Choice

The impact of this merger will reverberate beyond the negative effects of Clarivate's newly acquired ability to cross-leverage market advantages across distinct lines of business. The duopoly in the research analytics market will likely extend to other markets underpinning the scientific and scholarly enterprise as both firms rush to establish end-to-end platforms for research. This platformization of research will accelerate the marginalization of smaller firms, create barriers to entry for new firms that would be extremely difficult to surmount, and encourage consumers to stay within one firm's ecosystem of products.

2.2.4 The Merger Would Increase Risk of Anticompetitive Coordination

The duopoly between Clarivate and Elsevier in the research analytics market that would likely result from the merger would increase the risk of anticompetitive conduct. In markets that have been tilted heavily toward firms with first-degree price discrimination, opaque pricing, and high switching costs (as described in 1.4), the two dominant firms will face little incentive to compete on price.[81] Instead, this market structure invites tacit collusion to maintain high prices.

2.3 Merger Efficiencies Are Unlikely to Benefit Customers

The market characteristics that already create a strong bias toward large firms (first-degree price discrimination, a lack of transparency, and high switching costs) position Clarivate to capture any efficiencies created by the acquisition. These characteristics should increase skepticism when scrutinizing the merger's efficiency claims. The FTC should request that Clarivate and ProQuest disclose detailed data on pricing and pricing trends for their products.

Anecdotal evidence suggests that productivity gains and efficiencies deriving from mergers rarely, if ever, translate into lower prices for the users of the products and services of these two

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[79] Am. Lib. Ass'n, Library Bill of Rights § VII, https://www.ala.org/advocacy/intfreedom/librarybill
[80] Am. Lib. Ass'n, *State Privacy Laws Regarding Library Records*, https://www.ala.org/advocacy/privacy/statelaws. Two states have Attorneys' General opinions requiring library patron privacy in lieu of codified statutes.
[81] The continual price increases in the academic journal publishing market over decades provides a powerful example of the lack of price competition in these markets. *See* Stephen Bosch et al., *The New Abnormal: Periodicals Price Survey 2021*, Lib. J. (Apr. 27, 2021), https://www.libraryjournal.com/?detailStory=The-New-Abnormal-Periodicals-Price-Survey-2021; Ass'n of Rsch. Lib., *ARL Statistics Survey Statistical Trends*, https://www.arl.org/arl-statistics-survey-statistical-trends/ [https://perma.cc/T4ZW-TT8C] (last visited Oct. 21, 2021).

companies.[82] Furthermore, the market power of firms relative to their customers decreases the likelihood efficiencies will benefit consumers in the form of lower prices. The FTC should ask academic librarians whether they have been offered price cuts on a like-for-like basis or what conditions were offered during negotiations with a library needing to lower its total spend.

3. THE FTC SHOULD BLOCK THE MERGER AND TAKE FURTHER ACTION

3.1 The FTC Should Block the Merger

The proposed merger between Clarivate and ProQuest is likely to produce adverse competitive effects described in the *Horizontal Merger Guidelines* and would result in foreseeable harm to consumers related to product quality, price, choice, and privacy. The merger would significantly decrease competition across key markets, resulting in a research enterprise increasingly dominated by a very small number of firms with extraordinary market power, relative to both their competitors and customers. Blocking this merger is a necessary step in pulling the research enterprise back from the brink of a future in which it is controlled by platform monopolies.

There is no remedy sufficient to mitigate the negative effects of this merger, and it must be blocked in its entirety.

3.2 The FTC Should Open a Broader Investigation into Consolidation and Anticompetitive Practices in the Research Market

Just as the proposed Clarivate-ProQuest merger should be considered in the broader context of relevant markets, the regulatory remedy should not be considered in a vacuum.

Blocking Clarivate's acquisition of ProQuest is an important first step to avoid platform leveraging and product tying in the markets underpinning the global research enterprise. ProQuest's power as a monopolist in the academic LSP market warrants its own review, particularly as it is already working to use its LSP platform to gain an advantage in entering the research analytics market. Even more concerningly, Elsevier is already an emerging platform monopolist leveraging its dominant position in the academic journal market to fortify its control of the research analytics market.

The consolidation and decreasing competition across the key markets which underlie the research ecosystem are not just trending in the same direction—they are deeply interconnected.

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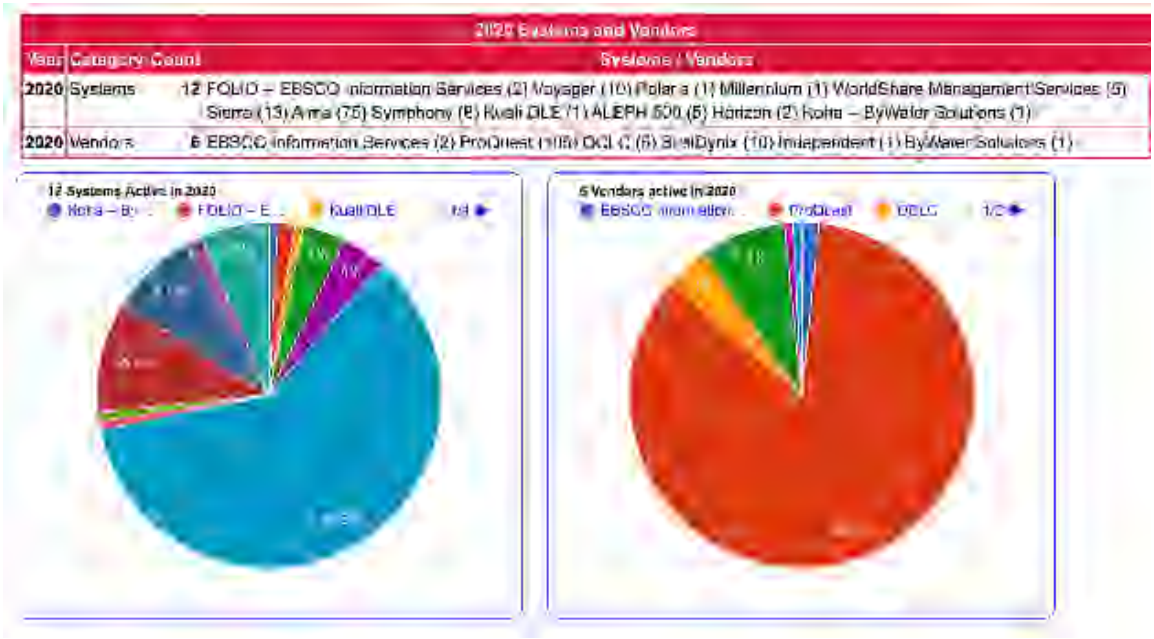
[82] This anecdotal evidence stems from SPARC's experience coveneing our journal negotiation community of practice and in our research underlying SPARC's four reports on consolidation in the markets underlying research and education. *See SPARC Roadmap for Action* note 26; *SPARC Landscape Analysis* note 40; *2020 Update: SPARC Landscape Analysis & Roadmap for Action* note 50. *See also 2021 Update: SPARC Landscape Analysis & Roadmap for Action*, September 2021 https://sparcopen.org/wp-content/uploads/2021/10/2021-Landscape-Analysis-101421.pdf.

Given the market characteristics that favor firms over customers, the research enterprise is particularly susceptible to platform monopolies as digital infrastructure becomes central to the conduct of research. Addressing this proposed merger without a wider investigation would leave consumers vulnerable to exploitation.

Exhibit A: Consolidation Over Time in the LSP Market at ARL Institutions

Below is a selection of graphs depicting the LSP market share at Association of Research Library (ARL) institutions for the years 2020, 2011, and 2001.[83]



[83] *See Systems and Vendors in Association of Research Libraries Members supra* note 20.

2011 Systems and Vendors		
Year	Category	Count	Systems / Vendors
2011	Systems	6	Sierra (9) Horizon (4) Symphony (19) Voyager (50) ALEPH 500 (20) Millennium (31)
2011	Vendors	3	Innovative Interfaces, Inc. (40) SirsiDynix (23) Ex Libris (61)

2001 Systems and Vendors		
Year	Category	Count	Systems / Vendors
2001	Systems	14	Taos (1) Horizon (9) Dart (1) DRA (9) MultiLIS (1) Innopac (16) Symphony (14) VTLS (2) Voyager (29) Advance (2) NOTIS (10) ALEPH 500 (9) Millennium (19) Locally developed (2)
2001	Vendors	9	Sirsi (25) epixtech (13) The Library Corporation (1) Innovative Interfaces, Inc. (35) VTLS (2) Elsevier (29) Geac Library Solutions (2) Ex Libris (8) Independent (2)